Review Article On Emerging Viruses In Sub Saharan Africa
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ABSTRACT

Introduction: Emerging diseases continue to be a major public health concern in Sub-Saharan Africa, with devastating consequences on individuals, families, communities, and the entire healthcare system.

Objective: This review article provides an overview of the current state of emerging viral diseases in the region, focusing on the factors contributing to their emergence and spread, the impact on public health, and the strategies being employed to prevent and treat them.

Methodology: 10 reviewed and published articles were used to generate this research paper with the help of online research journal websites such as science direct, research gate, sci-hub, PubMed and google scholar.

Results: Rift Valley virus, Zika virus, Marrburg virus, Chikungunya virus are some common emerging viruses in sub-Saharan Africa. These viruses can affect humans through interaction with infected persons, through the intake of contaminated food, through air and water, and transmission from infected animals. These viral infections can lead to severe fever, bleeding, respiratory illnesses, jaundice, organ failure. These diseases can be prevented and treated by vaccination and supportive care such as maintaining oxygenation and hydration.

Conclusion: There is a need to develop and implement effective strategies to prevent, detect and respond to emerging diseases in sub-Saharan Africa to promote health and wellbeing for all.

Keywords: Viruses, Infection, sub-Saharan Africa, health implication, prevention, treatment.

1 Introduction
Emerging infections can be defined as infections that have newly appeared in the population, or have existed but are rapidly increasing in incidence or geographic range (Morse, 1995: 7) New and reemerging infectious disease outbreaks have continued to cause much human suffering and loss of life and thus it is a major public health concern globally. The past 2 decades have seen landmark events in the area of infectious diseases which resulted in epidemics or had the potential. Zumla and Hui (2019) listed the series of events as follows: the SARS (severe acute respiratory syndrome) pandemic (2002–2004), the Ebola virus disease (EVD) outbreak in West Africa (2013–2016), the cholera outbreak in Yemen (2015–2018), the Zika virus in the Americas and southeast Asia (2016–2018), Lassa fever (LF) in Nigeria (2018), diphtheria in Venezuela (2016-2017) and in Yemen (2017-2018), Yellow fever in Latin America and Africa (2016–2018), and Nipah virus in India and South Asia (2017–2018). Recent occurrences include SARS-CoV-2 virus that causes COVID-19 (Shors, 2021) and Monkeypox virus disease(WHO, 2022).

According to a UNAIDS study, there would be 37.7 million HIV-positive people worldwide in 2020, with 1.5 million new infections and 690,000 deaths from AIDS-related illnesses (UNAIDS, 2021). Again according to a comprehensive study and meta-analysis published in The Lancet Global Health, 292 million persons worldwide had chronic HBV infection in 2015, with sub-Saharan Africa and East Asia having the highest prevalence rates (Liang et al., 2019).

Many infectious diseases have emerged or reemerged in Africa in the 21st century. Viral infections are widespread in Sub-Saharan Africa, and prevalence studies have been carried out to determine how these viruses affect the local population. According to a study, the number of HIV-positive people in sub-Saharan Africa in 2017 was projected to be 25.7 million, with a prevalence rate of 4.9% among adults aged 15 to 49. (Gueler et al., 2019). According to a study in the Journal of Medical Virology, West Africa had the highest rates of chronic Hepatitis B Virus infection, which were estimated to be 8.8% overall across sub-Saharan Africa (Kramvis & Kew, 2015). The prevalence of the Hepatitis C virus was estimated to be 3.1% across sub-Saharan Africa according to another
comprehensive review and meta-analysis published in The Lancet, with the highest rates found in West Africa (Lemoine et al., 2014). According to a study published in AIDS Research and Human Retroviruses, Central Africa had the highest prevalence rates of the human T-lymphotropic virus, which was estimated to be 2.2% in sub-Saharan Africa (Gessain et al., 2013).

In sub-Saharan Africa, several viruses are reemerging. The Lassa fever virus is one of these pathogens. Parts of West Africa, particularly Nigeria, Sierra Leone, Liberia, and Guinea, are plagued by the acute viral hemorrhagic sickness known as Lassa fever (WHO, 2021). Humans contract the virus when they come into contact with contaminated food or household goods from rodents’ urine or excrement (WHO, 2021). Also, on the rise in sub-Saharan Africa is the zika virus. In 1947, the Zika virus, which is spread by mosquitoes, was discovered for the first time in Uganda. The virus has recently spread throughout Sub-Saharan Africa, including Angola and Gabon. Pregnant women who contract the zika virus run the risk of having babies with serious birth abnormalities including microcephaly (WHO, 2021).

Moreover, the Crimean-Congo hemorrhagic fever virus is a new virus that has been found in sub-Saharan Africa. Crimean-Congo hemorrhagic fever (CCHF) is a virus that is endemic to regions of Africa, Asia, and Europe. It is spread via ticks. CCHF epidemics have been documented in Sub-Saharan African nations like Nigeria, Senegal, and South Africa (Shors, 2021).

In addition, Ebola virus disease (EVD) is a severe, often fatal illness that is caused by the Ebola virus which is rapidly emerging in sub-Saharan Africa (Shors, 2021). The virus is transmitted to humans through contact with infected animals, such as fruit bats or primates, or through contact with the bodily fluids of infected individuals. The largest outbreak of EVD in history occurred in West Africa between 2014 and 2016 (Shors, 2021). Rift Valley fever virus is an emerging virus which causes Rift Valley fever (RVF). It is a mosquito-borne viral disease that primarily affects animals, such as cattle and sheep, but can also infect humans. The virus is endemic in Sub-Saharan Africa, and outbreaks have been reported in countries such as Kenya, Tanzania, and South Africa.

Viruses can have various sources, including animals, plants, and other microorganisms. Many viruses can be found in animal reservoirs that infect humans. For example, the Ebola virus is believed to have originated in fruit bats, while the SARS-CoV-2 virus that causes COVID-19 is thought to have originated in bats and was transmitted to humans through an intermediate host, possibly a pangolin (Shors, 2021). Secondly, insects are well-known source of virus. Some viruses can be transmitted to humans through insect bites, such as the West Nile virus, which is spread by mosquitoes, and the Zika virus, which is spread by Aedes mosquitoes (Tortora et al., 2021). Also, some viruses can be found in water and food. Some viruses can be transmitted through contaminated water and food, such as the hepatitis A virus, which can be spread through contaminated food or water (Shors, 2021). Other humans can serve as a source of virus. Viruses can be transmitted through direct contact with infected individuals or through respiratory droplets, such as the influenza virus or the measles virus (Tortora et al., 2021). Environmental sources are sources of viruses. Some viruses can survive in the environment, such as the poliovirus, which can persist in sewage and contaminated water (Shors, 2021).

The effects of viruses on human health and the environment in Sub-Saharan Africa are significant and diverse. Some of the most prevalent viral infections in the region include HIV/AIDS, hepatitis B and C, influenza, Ebola, and Zika (Tortora et al., 2021). These infections pose a significant threat to human health, leading to illness, disability, and death. Viral infections in Sub-Saharan Africa also have a significant impact on the environment, as they can affect wildlife populations and disrupt ecosystems (Tortora et al., 2021).

HIV/AIDS is one of the most harmful viral illnesses in Sub-Saharan Africa. According to UNAIDS, 19.6 million persons in Sub-Saharan Africa had HIV/AIDS in 2020, making up 67% of all people with the disease worldwide (UNAIDS, 2021). A number of reasons, including poverty, poor access to healthcare, and cultural norms including female genital mutilation and early marriage, are to blame for the high prevalence of HIV/AIDS in the area (UNAIDS, 2021). Significant viral infections in Sub-Saharan Africa include hepatitis B and C. The World Health Organization (WHO) estimates that 70 million individuals in the region are affected by chronic hepatitis B or C, which can cause liver cancer and cirrhosis. In the area, influenza is a common viral infection that causes significant morbidity and mortality, especially in children and older people (WHO, 2021). Ebola virus disease (EVD) outbreaks have occurred sporadically in Sub-Saharan Africa since the first outbreak was reported in 1976. The most significant outbreak occurred in West Africa from 2014 to 2016, with over 28,000 reported cases and 11,000 deaths (WHO, 2021). The outbreak had a significant impact on the region’s health systems, economies, and social fabric (WHO, 2021). Zika virus is another emerging viral infection in Sub-Saharan Africa, with reported cases in Angola, Cape Verde, Guinea-Bissau, and Cabo Delgado province in Mozambique. The virus is primarily spread by the Aedes mosquito and can cause microcephaly and other birth defects in babies born to infected mothers (WHO, 2021).
The impact of viral infections on the environment in Sub-Saharan Africa is also significant. For example, Ebola virus outbreaks can have a devastating impact on wildlife populations, particularly great apes, which are susceptible to infection and can experience high mortality rates (WHO, 2021). The destruction of wildlife habitats and the hunting of bushmeat, which can transmit the virus, also pose a threat to wildlife populations and the overall ecosystem (WHO, 2021).

A bacterial infection called tuberculosis (TB) can be made worse by viral diseases like HIV. Sub-Saharan Africa has a significant TB problem because the region has roughly 25% of the world's TB cases. The region's high rate of HIV/AIDS has also contributed to the rising incidence of drug-resistant TB (WHO, 2021). Malaria, a parasite ailment is spread by mosquitoes. Malaria is endemic in Sub-Saharan Africa, where it is thought that 90% of all cases worldwide take place. Malaria is a major source of illness and mortality, especially in children under the age of five (WHO, 2021). The virus that causes yellow fever is also spread by mosquitoes. In some regions of Sub-Saharan Africa, the illness is endemic, and outbreaks can happen in populated areas. A variety of symptoms, including moderate fever, severe liver disease, and hemorrhagic fever, can be brought on by yellow fever (WHO, 2021).

The burden of viral infections in Sub-Saharan Africa has a significant impact on the region's health systems. The high prevalence of HIV/AIDS, for example, has strained health systems and led to a shortage of healthcare workers. Outbreaks of diseases such as Ebola can also overwhelm healthcare facilities and disrupt routine healthcare services (Morse, 2012). Viral infections can have a significant economic impact on Sub-Saharan Africa. Outbreaks of diseases such as Ebola can lead to the closure of borders, disruption of trade, and loss of income for individuals and businesses. The economic impact of viral infections can also exacerbate poverty and lead to further health disparities (Kieny, 2017). Viral infections can also have a significant impact on wildlife populations in Sub-Saharan Africa. The destruction of habitats and hunting of bushmeat can lead to the transmission of viruses such as Ebola and contribute to the decline of wildlife populations. The loss of wildlife can also have broader environmental impacts, such as disrupting ecosystem functioning and biodiversity (Kieny, 2017).

Although various studies have been conducted on viruses, it is difficult to monitor trend of emerging viruses in sub-Saharan Africa. This is primarily due to lack of data on the emerging viruses in sub-Saharan Africa, the country/countries in which it is most prevalent, the implications on health and the targets for prevention and treatment. This paper therefore presents a review of an up-to-date information available on the literature on the emerging viruses in sub-Saharan Africa.

2 Methodology
2.1 Search Process
A concise and comprehensive review was carried out with the aid of online research journal websites. Five electronic databases (including science direct, research gate, sci-hub, PubMed and google scholar) were searched yielding. While conducting this study, the key words in the search query were directed towards the different emerging viruses in sub-Saharan Africa. In relation to the aim of this study, interest was taken in reviewing journals and articles that centered on the emerging viruses in sub-Saharan Africa, the country/countries in which it is most prevalent, the implications on health and the targets for prevention and treatment. This paper therefore presents a review of an up-to-date information available on the literature on the emerging viruses in sub-Saharan Africa.

2.2 Selection Criteria
Inclusion criteria: The research had to be published in English and had to occur in Sub-Saharan Africa. The studies needed to look into the emerging viruses in sub-Saharan Africa, the country/countries in which it is most prevalent, the implications on health and the targets for prevention and treatment. The search included all studies such as descriptive, surveys, observational and cross-sectional studies.
Exclusion criteria: Reviewed and unpublished studies were excluded from the search.

2.3 Screening of Articles
After the removal of duplicates and screening, 10 articles were included for the final review and analysis.

2.4 Process of coding data
The qualitative data obtained from the 10 articles were analysed using thematic analysis to analyse patterns or themes. The data were then coded according to key words which had similar meanings or synonyms. The data were then put into categories and after careful research on meanings and definitions.
## Results

Table 1: Emerging viruses, its implication for human health, targets for prevention and treatment in Sub-Saharan Africa.

<table>
<thead>
<tr>
<th>Viruses</th>
<th>Implication for human health</th>
<th>Targets for prevention and treatment</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rift Valley fever (RVF) virus</td>
<td>RVF virus is a mosquito-borne virus that can cause severe fever, bleeding, and organ failure in humans. It is endemic in parts of Africa, and outbreaks have occurred in countries such as Kenya, Tanzania, and South Africa.</td>
<td>Treatment typically involves supportive care, while prevention methods include controlling mosquito populations and avoiding contact with infected animals</td>
<td>Anyangu et al., (2010).</td>
</tr>
<tr>
<td>Nipa virus</td>
<td>The zoonotic virus known as NipaVirus was initially discovered in 1998 during an encephalitis outbreak in Malaysia. The virus spreads from animals, mainly fruit bats, to people when they come into direct touch with contaminated objects or eat contaminated food. In humans, NiV can lead to encephalitis and severe respiratory disease. NiV outbreaks have been reported in Malaysia, Bangladesh, and India.</td>
<td>NiV infection does not presently have a particular therapy or vaccination. Symptoms can be controlled with supportive treatment, such as keeping hydrated and getting enough oxygen. Less contact with diseased animals, proper cleanliness habits, and staying away from raw date palm sap consumption are also part of prevention strategies.</td>
<td>Luby, et al., (2009).</td>
</tr>
<tr>
<td>Monkey pox</td>
<td>In Nigeria in 2017, there were 146 suspected cases, 42 laboratory-confirmed cases, and one confirmed case of monkeypox who had a history of immunosuppression who passed away. 13 incidents in the Central African Republic (2015–2016), with a 67% fatality rate for those under the age of 10.</td>
<td>Lessen the possibility of wildlife to human transmission</td>
<td>Kalthan, (2016), Yinka-Ogunleye, (2018).</td>
</tr>
<tr>
<td>MERS-CoV</td>
<td>It was originally recognized as a coronavirus in Saudi Arabia in 2012. The virus is believed to have originated in camels and can be passed from infected animals or their secretions to people through close contact. A 35% death rate is associated with the severe respiratory sickness that MERS-CoV can bring on. MERS-CoV outbreaks have been reported in South Korea and a number of Middle Eastern nations.</td>
<td>There is no specific treatment for MERS-CoV infection, and care is mainly supportive. Prevention efforts include avoiding contact with infected animals, practicing good hygiene, and implementing infection control measures in healthcare settings.</td>
<td>Assiri et al., (2013)</td>
</tr>
<tr>
<td>Yellow fever virus</td>
<td>The yellow fever virus, which is spread by mosquitoes, can make people sick with a high fever, jaundice, and organ failure. It has</td>
<td>Treatment typically involves supportive care, while prevention methods include vaccination and controlling mosquito populations</td>
<td>Barrett et al., (2017).</td>
</tr>
</tbody>
</table>
outbreaks in nations including Angola, Brazil, and the Democratic Republic of the Congo and is endemic in regions of Africa and South America.

**Ebola Virus**

The highly contagious virus that causes Ebola virus sickness is called the Ebola virus (EVD). Both humans and other primates are susceptible to the severe and frequently fatal EVD disease. It is thought that the virus spreads to people through interaction with infected animals, like fruit bats, or through coming into contact with an infected person's bodily fluids. Around 11,000 people died as a result of the worst Ebola outbreak in history in Guinea, Liberia, and Sierra Leone between 2014 and 2016.

There is no specific treatment for EVD, and the primary treatment is supportive care. Preventing Ebola virus infection involves avoiding contact with infected animals and taking precautions when caring for infected individuals.


**Zika Virus**

Zika virus is a mosquito-borne virus that was first identified in the Zika forest in Uganda in 1947. The virus is transmitted by the Aedes mosquito and can also be transmitted through sexual contact. Zika virus infection during pregnancy can cause severe birth defects, including microcephaly, and other neurologic abnormalities in newborns. Zika virus has been reported in several countries in sub-Saharan Africa, including Angola, Cape Verde, and Tanzania.

There is no specific treatment for Zika virus infection, and the primary treatment is supportive care. Preventing Zika virus infection involves avoiding contact with mosquito bites, practicing safe sex, and taking extra precautions if pregnant or trying to become pregnant.

CDC, (2019)

**Lassa Fever Virus**

The Lassa virus is what causes Lassa fever, an acute viral hemorrhagic fever. Humans can contract the virus by coming into touch with infected rats, their urine, or their excrement. West Africa, encompassing a number of sub-Saharan African nations, is home to an endemic strain of lassa fever. With an estimated 100,000 to 300,000 cases and 5,000 fatalities per year in sub-Saharan Africa, lassa fever is a serious public health issue.

The main treatment for Lassa fever is ribavirin. Avoiding rodent contact and taking extra care with sick people are two ways to prevent Lassa fever.

World Health Organization (2019)

**Chikungunya virus**

Chikungunya virus (CHIKV) is a mosquito-transmitted alphavirus that is emerging as a

Vector-control measures Wahid, (2017)

Marburg virus

In humans and other primates, the rare and contagious Marburg virus produces a severe hemorrhagic fever. It was connected to the importation of infected monkeys from Uganda when it was first discovered in 1967 in Marburg, Germany. There have been Marburg virus epidemics in a number of sub-Saharan African nations, including Angola, Uganda, and the Democratic Republic of the Congo. There is no specific treatment or vaccine for Marburg virus, and the only treatment is supportive care. WHO, (2021).

Crimean-Congo hemorrhagic fever (CCHF) virus

The CCHF virus is a tick-borne pathogen that can infect people and cause severe hemorrhagic fever. It has outbreaks in nations like Nigeria, South Africa, and Uganda and is endemic in portions of Africa, Asia, and Europe. While prevention strategies include avoiding tick contact and donning protective clothes in tick-prone areas, treatment mainly consists of supportive care. (Bente et al., 2013).

4 Discussion

Sub-Saharan Africa is known to be a hotspot for emerging viruses due to its unique ecology, demographics, and infrastructure. With a rapidly growing population and a rising demand for food and resources, there is an increased risk of zoonotic spillovers, which can lead to outbreaks of emerging infectious diseases. In this review, we will discuss some of the most notable emerging viruses that have been identified in Sub-Saharan Africa in recent years.

Ebola Virus

Ebola virus is perhaps the most well-known emerging virus in Sub-Saharan Africa. It first emerged in 1976 in Sudan and the Democratic Republic of Congo (DRC), and since then, there have been several outbreaks in the region. The most recent outbreak, which occurred in West Africa in 2014, was the largest and most devastating, with over 28,000 cases and 11,000 deaths (WHO, 2021). The Ebola virus is transmitted through contact with bodily fluids, and the high fatality rate and lack of effective treatments have made it a significant public health concern.

Lassa Fever Virus

Lassa fever virus is another emerging virus that is endemic in parts of West Africa. It was first identified in 1969 in Nigeria, and since then, there have been several outbreaks in the region. The virus is transmitted through contact with infected rodents, and human-to-human transmission can occur through direct contact with bodily fluids. Lassa fever can cause severe hemorrhagic fever and has a mortality rate of up to 50% (WHO, 2021).

Zika Virus

Zika virus is a mosquito-borne virus that emerged in Sub-Saharan Africa in the 1940s but did not receive much attention until a large outbreak occurred in the Americas in 2015-2016. The virus can cause birth defects in
infants born to infected mothers and has been linked to Guillain-Barre syndrome in adults. While Zika virus is not currently considered a major public health threat in Sub-Saharan Africa, there is a risk of future outbreaks (WHO, 2021).

Yellow fever

A flavivirus that infects people and is transmitted by mosquitoes is the yellow fever virus. From a moderate, non-specific disease to a serious condition that causes jaundice, bleeding, and even death, its symptoms might range (Monath, 2015). A single-dose vaccine has been available since the 1940s. It has made it feasible to significantly control and limit the propagation of viruses. Yet, the virus's sylvatic cycle prevents its eradication. The primary hosts in this sylvatic cycle are nonhuman primates, and humans contract the illness from Aedes aegypti mosquitoes.

Lack of or irregular vaccination efforts, especially in low-income and/or politically unstable countries, is another factor contributing to yellow fever's persistence in Africa (Markoff, 2013). More cases have also been reported in Central African countries since 2008, raising the question of whether these reports reflect greater surveillance or a real increase in the disease (Monath, 2015). Between 2015 and 2016, there was a substantial yellow fever outbreak in Angola and the DRC, with 7334 suspected cases (Sands, et al, 2018). Independent of origin, the primary cause of the rise in reports—a persistent absence of immunization in the human population—remains the same (improvements in surveillance or an epidemic).

Monkeypox

Orthopoxvirus, the virus that causes monkeypox, is closely linked to the virus that causes smallpox in people. This virus is widespread in central and western African nations. It was initially identified in 1958 as a condition affecting Macaca cynomolgus, which were being utilized as research animals at the time, and was subsequently recognized in the DRC in 1970 as a condition affecting humans. (2017) Morand et al. Rats, humans, and other primates can all contract the virus. There were a few instances of human-to-human transmission, but the majority of the recorded cases involved animal-to-human transfer and were associated with handling and consuming ill animals (Learned et al., 2003). Human monkeypox cases have been reported since 2000 in the Central African Republic, Republic of the Congo, South Sudan, Nigeria, Liberia, and Sierra Leone. (2017) Durski et al. In 2017, Nigeria experienced its largest known outbreak of monkeypox, more than 40 years after the last cases were reported. 2018 (Yinka-Ogunleye).

Crimean-Congo Hemorrhagic Fever Virus

The CCHF virus is a tick-borne pathogen that can infect people and cause severe hemorrhagic fever. It can be found all over the world, especially in Europe, Asia, and Africa. By contact with the blood or tissues of infected animals as well as tick bites, the virus can be caught by people. Although the CCHF virus can cause serious illness with a high fatality rate, there is no specific medication or vaccination available at this time (Bente, 2013).

Marburg Virus

Marburg virus is a highly infectious virus that is related to the Ebola virus. It was first identified in 1967 in Marburg, Germany, and since then, there have been several outbreaks in Africa. The virus is transmitted through contact with infected animals or people, and it can cause severe hemorrhagic fever with a high mortality rate. There is currently no specific treatment or vaccine available for Marburg virus (CDC, 2021).

Chikungunya Virus

Chikungunya virus is a mosquito-borne virus that causes a fever and severe joint pain. It was first identified in Tanzania in 1952, and since then, there have been several outbreaks in Africa, Asia, and the Americas. The virus is transmitted through the bite of infected mosquitoes, and there is currently no specific treatment or vaccine available for Chikungunya virus (Weaver, 2015).

Rift Valley Fever Virus

RVF virus is a mosquito-borne virus that primarily affects animals but can also cause severe illness in humans. It was first identified in Kenya in 1930, and since then, there have been several outbreaks in Africa and the Middle East. The virus is transmitted through the bite of infected mosquitoes or contact with blood or tissues of
infected animals. RVF virus can cause severe illness with a high mortality rate in humans, and there is currently no specific treatment or vaccine available (Pepin, 2010).

Nipah Virus
A zoonotic virus called the Nipah virus was discovered for the first time in Malaysia in 1998. The virus is spread by coming into touch with infected pigs or bats, and it can also be spread from person to person by being in close proximity to an affected person. There is presently no known cure or vaccination for the Nipah virus, which has the potential to cause serious respiratory and neurological illness with a high fatality rate (Wang, 2006).

Middle East Respiratory Syndrome Coronavirus
A coronavirus called MERS-CoV was originally discovered in Saudi Arabia in 2012. The virus can cause a serious respiratory infection with a high fatality rate and is spread through intimate contact with infected people. There have been occasional cases of MERS-CoV in other parts of the world, and it has been discovered in several Middle Eastern nations. There isn’t a specific MERS-CoV medication or vaccination available right now (WHO, 2021).

In conclusion, a number of newly developing viruses pose a serious risk to the general public's health in various parts of the world. There are currently no approved therapies or vaccines for many of these viruses, despite the fact that many of them have high fatality rates. To respond to these new infectious diseases successfully, improved surveillance, research, and readiness are required.

5 Limitation Of Study
The limitation of this review is the relatively small number of individual studies carried in this developing area of importance.

6 Conclusion
Emerging diseases pose a significant threat to human health and well-being in Sub-Saharan Africa. Despite recent progress in disease control and prevention, the region remains vulnerable to new and re-emerging infectious diseases. These diseases can have devastating consequences on individuals, families, communities, and the entire healthcare system.

As highlighted in this discussion, several factors contribute to the emergence and spread of infectious diseases in Sub-Saharan Africa, including poverty, lack of access to healthcare, population growth, climate change, and global trade and travel. These factors create a perfect storm for the emergence and spread of infectious diseases, making it imperative for policymakers and healthcare practitioners to adopt a proactive approach to disease control and prevention. Efforts to address emerging diseases in Sub-Saharan Africa require a multifaceted approach that involves improving access to healthcare, strengthening public health systems, enhancing disease surveillance, promoting research and innovation, and increasing international cooperation and support. This approach must be tailored to the unique needs and challenges of the region, taking into account the cultural, social, economic, and political factors that shape the health landscape. While the challenges of emerging diseases in Sub-Saharan Africa are daunting, there are also reasons for optimism. Opportunities to combat new diseases in the region are provided by advances in science and technology, increasing political will, and international assistance. By working together, stakeholders can develop and implement effective strategies to prevent, detect, and respond to emerging diseases in Sub-Saharan Africa and promote health and well-being for all.

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The authors say they have no competing interests.

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